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Patent Attorneys and Attorneys at Law

Translation of the OFFICIAL ACTION of the German Patent and Trademark Office

Date of the Official Action:	May 16, 2002
Date Received:	June 3, 2002
Official File Number:	199 81 083.4-27
Applicant:	Seiko Epson Corp.
H · E File:	81 142/aol
Date Response is Due:	December 6, 2002

RECEIVED
JUL 17 2002
TECHNOLOGY CENTER 2800

Request for examination, day of payment September 12, 2000

The further examination of the above-identified patent application led to the result summarized below. A time limit of

six months

is granted for reply. This time limit commences upon delivery of this Official Action.

All documents (e.g. patent claims, description, parts thereof, drawings) attached to the response should each be filed in **duplicate** and on separate sheets. The response itself is required in single copy only.

If the patent claims, the description or the drawings are amended during the course of the procedure and the amendments have not been proposed by the Patent Office, the applicant is to state in detail where in the original documents the inventive features described in the new documents are disclosed.

Notice Regarding the Possibility of Branching Off Utility Models

The applicant of a patent application which was filed subsequent to January 1, 1987, with effect in the Federal Republic of Germany, can file a utility model application relating to the same application and simultaneously claim the application date of the prior patent application. This branching off (Sec. 5, Utility Model Act) is possible until the expiration of two months after the end of that month in which the patent application has been settled by legal rejection, withdrawal at the applicant's own free will or fictitious withdrawal, an opposition procedure has been concluded, or - in the case of the grant of the patent - the time limit for lodging an appeal against the decision to grant a patent has lapsed without an appeal having been filed. More detailed information in connection with the requirements for a utility model application, including this branching off, are contained in the information sheet for the filing of utility model applications (G 6181) which can be obtained free of charge at the Patent and Trademark Office and the Patent Information Centres.

☒ In this Official Action the following citations are mentioned for the first time (and the consecutive numbers given here will be retained throughout the proceedings):

- (1) WO 97/23352 A1
- (2) DE 91 16 990 U1
- (3) EP 0 789 322 A2
- (4) EP 0 710 568 A2.

The examination is based on the original documents and the claims 1 to 75.

The formulation "wherein said ink supply needle is located near an end of a side in a direction perpendicular to the reciprocated directions of said carriage" of claim 1 is unclear and not understandable. The applicant is requested to clarify this feature.

Although the complete documents contain a teaching for a skilled person which is clear and complete. However, this teaching has not found sufficient expression in claim 1. For this reason, the version of claim 1 does not meet the requirement of the Regulations for Patent Applications, Sec. 4, paragraph 4, according to which the essential features of the invention must be indicated in claim 1.

For this reason alone, claim 1 is not allowable.

An ink-jet printer is known from reference (1), comprising

- a reciprocated carriage on which an ink supply needle, a cartridge holder and a print head communicating with said ink supply needle for injecting ink droplets are formed (see Fig. 2 with accompanying description);
- an ink cartridge having an ink outlet port into which the ink supply needle is inserted, comprising a storage chip for storing ink information, with the ink supply needle being arranged at the bottom side of the carriage facing the ink cartridge—this may in particular be taken from the cross-section of an ink cartridge shown in Fig. 3 below -, and with the ink supply needle being arranged in an area of the carriage which is adjacent to a synchronizing belt (Pos. 9); with a board being mounted on a wall of said ink cartridge in the vicinity of a side on which said ink outlet port is formed (Fig. 7a with accompanying description);
- several contacts (see Pos. 73 in Fig. 7a) for connecting to an external control means being formed on an exposed surface of said board;

- and said semiconductor storage means being accessed from an external (closed loop) control means *via* said contacts.

Thus, the subject matter of claim 1 – if a reconstructable technical teaching is assumed – is not novel.

Claim 1 is therefore not allowable.

As to the independent claims 18 and 30, reference is also made to reference (1), from which an ink cartridge for supplying ink to a print head is known, to which ink is supplied by means of an ink supply needle, with

- the ink outlet port, into which the ink supply needle is inserted, being formed on a surface of a container, which forms as chamber which contains ink (see Fig. 3b);
- a board being formed in the vicinity of the ink outlet port; and
- several contacts for connecting to an external (closed loop) control means being formed on the exposed surface of said board.

The subject matters of claims 18 and 30 are thus no more novel.

For this reason, claims 18 and 30 are not allowable.

The ink cartridge according to the independent claim 53 only differs from the ink cartridge according to claim 30 in that a semiconductor storage means is fastened on the rear side of the surface, on which the contacts are formed, to the board.

It is however a matter of constructive skill to the expert, a mechanical engineer of the subject fine mechanics, or an electrical engineer, to arrange a semiconductor chip to the rear side of a board, *e.g.* in order to protect the semiconductor chip against damage or contaminations.

Thus, the subject matter of claim 53 may in an obvious manner be taken from the shown prior art. It is thus not based on inventive step.

Claim 53 is therefore not allowable.

The ink cartridge according to the independent claim 64 only differs from the ink cartridge according to claim 30 in that the board is inserted in a concave area. This measure also lies within the discretion of the skilled person; besides, a hint in this respect he may take from Fig. 11a of reference (1) showing an ink cartridge with electrical contacts being fastened within a concave area.

In addition, it is indicated to reference (2) (see column 7, lines 24 to 28, and Figures 4 and 5) which reveals an ink cartridge wherein a board comprising a semiconductor chip is inserted in a recess provided on the bottom side of the ink cartridge.

Thus, the subject matter of claim 64 may in an obvious manner also be taken from the shown prior art. It is thus not based on inventive step.

Claim 64 is therefore not allowable.

For reasons of non-allowability of claims 1, 18, 30, 53 and 64, the claims made dependent thereon are for formal reasons not allowable. Besides, the subclaims do not show anything which would substantiate a patent.

The features contained in subclaims 2, 20 and 33 relating to the time point at which the contacts are connected to the external control means are suggested by reference (3) (page 17, third paragraph), as well as figures 7a, 7b.

The features contained in subclaims 14 to 16 relating to the receiving and fastening device of the ink cartridge on the carriage, are substantially suggested by reference (4).

If the subject matters of the remaining subclaims are not already anticipated by references (1) to (3), they substantially relate to common constructive measures without any own inventive content

If the application is prosecuted in spite of the prior art found, the applicant must point out wherein the invention is to be seen presenting new claims which have been provided with reference numerals. It should be indicated therewith, at which location features which have been newly introduced into the claims are disclosed in the original documents. Furthermore, the claims should as far as possible and to the most appropriate extent be combined. In addition, the prior art must be discussed in detail und the problem to be solved as concretely as possible be indicated.

With the claims as presented, grant of a patent cannot be expected, rather, if the application is prosecuted with the presented claims or with claims of he same content, its rejection will have to be expected.

If no response to this Official Action is intended, it is requested that an informal notice on the receipt hereof be submitted.

Examiner for Class B 41 J

Rödiger

Encls.:

copies of 4 references